JVC

Getting Started

HD MEMORY CAMERA

GZ-HM960U/GZ-HM860U
Basic User Guide

Recording

Everio

Playback
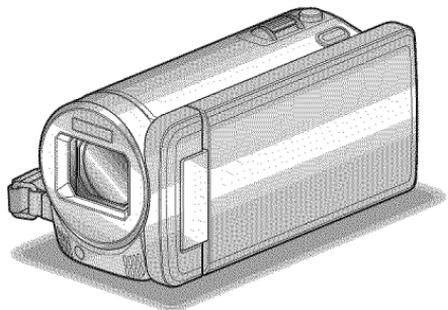
Thank you for purchasing this JVC product.
Before use, please read the Safety Precautions and Cautions on p. 2 and p. 36 to ensure safe use of this product.

Detailed User Guide

A "Basic User Guide" (this manual) and a "Detailed User Guide" are available for this product.
For more details on operating this product, please refer to the "Detailed User Guide" at the following website.

■ **http://manual.jvc.co.jp/index.html/**
■ **You can also access the website from the built-in application software of this unit. (p. 30)**

Copying

For Future Reference:
Enter the Model No. (located on the bottom of the camera) and Serial No.
(located on the battery pack mount of the camera) below.
Model No.
Serial No.

Further Information

SD XC™   DOLBY DIGITAL STEREO CREATOR   HDMI® HIGH-DEFINITION MULTIMEDIA INTERFACE   AVCHD™

Bluetooth® K2 *TECHNOLOGY*

ENGLISH
ESPAÑOL
FRANÇAIS

Safety Precautions

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an
equilateral triangle, is intended to alert the user to the
presence of uninsulated "dangerous voltage" within the
product's enclosure that may be of sufficient magnitude
to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is
intended to alert the user to the presence of important
operating and maintenance (servicing) instructions in
the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

NOTES:
● The rating plate and safety caution are on the bottom and/or the back of the main unit.
● The serial number plate is on the battery pack mount.
● The rating information and safety caution of the AC adapter are on its upper and lower sides.

Caution on Replaceable lithium battery

The battery used in this device may present a fire or chemical burn hazard if mistreated.
Do not recharge, disassemble, heat above 100°C (212°F) or incinerate.
Replace battery with Panasonic, Sanyo, Sony or Maxell CR2025.
Danger of explosion or Risk of fire if the battery is incorrectly replaced.
● Dispose of used battery promptly.
● Keep away from children.
● Do not disassemble and do not dispose of in fire.

For USA-California Only

This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material
– special handling may apply.
See www.dtsc.ca.gov/hazardouswaste/perchlorate

When the equipment is installed in a cabinet or on a shelf, make sure that it has sufficient space on all sides to allow for ventilation (10 cm (3-15/16") or more on both sides, on top and at the rear).
Do not block the ventilation holes.
(If the ventilation holes are blocked by a newspaper, or cloth etc. the heat may not be able to get out.)
No naked flame sources, such as lighted candles, should be placed on the apparatus.
When discarding batteries, environmental problems must be considered and the local rules or laws governing the disposal of these batteries must be followed strictly.
The apparatus shall not be exposed to dripping or splashing.
Do not use this equipment in a bathroom or places with water.
Also do not place any containers filled with water or liquids (such as cosmetics or medicines, flower vases, potted plants, cups etc.) on top of this unit.
(If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)

Do not point the lens directly into the sun. This can cause eye injuries, as well as lead to the malfunctioning of internal circuitry. There is also a risk of fire or electric shock.

CAUTION!
The following notes concern possible physical damage to this unit and to the user.
Carrying or holding this unit by the LCD monitor can result in dropping the unit, or in a malfunction.
Do not use a tripod on unsteady or unlevel surfaces. It could tip over, causing serious damage to the unit.

CAUTION!
Connecting cables (Audio/Video, etc.) to this unit and leaving it on top of the TV is not recommended, as tripping on the cables will cause the unit to fall, resulting in damage.

CAUTION:
The mains plug shall remain readily operable.
● Remove the mains plug immediately if the camcorder functions abnormally.

WARNING:
The battery pack, the camcorder with battery installed, and the remote control with battery installed should not be exposed to excessive heat such as direct sunlight, fire or the like.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

If this symbol is shown, it is only valid in the European Union.

Remember that this unit is intended for private consumer use only.

Any commercial use without proper permission is prohibited. (Even if you record an event such as a show, performance or exhibition for personal enjoyment, it is strongly recommended that you obtain permission beforehand.)

Trademarks
- "AVCHD", "AVCHD" logo, "AVCHD Lite" and "AVCHD Lite" logo are trademarks of Panasonic Corporation and Sony Corporation.
- x.v.Color™ is a trademark of Sony Corporation. **x.v.Color**
- HDMI is a trademark of HDMI Licensing, LLC. **HDMI**
- Bluetooth and the Bluetooth logo are registered trademark of Bluetooth SIG, Inc.
- Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.
- Windows® is either registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
- Macintosh is a registered trademark of Apple Inc.
- iMovie and iPhoto are trademarks of Apple Inc., registered in the U.S. and other countries.
- YouTube™ and the YouTube logo are trademarks and/or registered trademarks of YouTube LLC.
- Intel, Intel Core, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
- Eye-Fi is a trademark of Eye-Fi, Inc.
- Other product and company names included in this instruction manual are trademarks and/or registered trademarks of their respective holders.

Make a backup of important recorded data
JVC will not be responsible for any lost data. It is recommended to copy your important recorded data to a disc or other recording media for storage.

CAUTION:
To maintain compliance with FCC's RF exposure guidelines, use only the supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may Cause undesired operation.

For more information, refer to the Detailed User Guide
http://manual.jvc.co.jp/index.html/   **3**

Model Differences

Feature	Model	
	GZ-HM960	GZ-HM860
LCD Monitor	3D/2D	2D
2D➡3D Conversion Playback	Available	Unavailable
AC Adapter	AC-V30U	AC-V11U

Precautions on Playing Back 3D Images (for GZ-HM960)

Images recorded in 2D mode can be converted to 3D and played back on this unit. You can enjoy realistic and powerful 3D images by playing back on a 3D compatible TV. Before use, please read the following precautions to ensure safe and comfortable viewing of the 3D images.

Playing Back 3D Images

This unit makes use of the misalignment between the images that enter the left and right eyes to create the 3D effect during 3D playback. As the images that enter the left and right eyes are different, fatigue may be experienced. In addition, depending on the content of the video, an illusion of movement may be experienced and result in motion sickness.

3D Display on the LCD Monitor

3D images are supported by the LCD monitor. Press the "3D" button to change the display on the LCD monitor between 3D and 2D.

- 3D effect appears stronger when viewed at approximately 80 cm (11-3/4") from the front.
- 3D effect may be weak if viewed from an angle other than the front.
- The LCD monitor appears darker when 3D images are displayed. Change the display to 2D when it is difficult to see, such as when using this unit outdoors.

For more information, refer to the Detailed User Guide
http://manual.jvc.co.jp/index.html/

■ **Viewing of 3D images is not recommended for people with medical history of photosensitivity, with heart diseases, feel unwell, suffer from lack of sleep, suffer from fatigue, or are drunk.**
● Medical conditions may worsen.

■ **If you have vision problems such as short-sightedness, long-sightedness, varying vision in the left and right eyes, or astigmatism, it is recommended to correct your vision by wearing glasses, etc.**
Stop viewing of 3D images if you see double images.
● 3D images may appear differently for different people. Correct your vision appropriately before viewing the 3D images.

■ **Stop viewing of 3D images if you experience fatigue or discomfort.**
● Continual viewing of the 3D images may result in health problems.
● Take an adequate rest.
● Viewing of 3D images in an environment where shaking of the monitor is expected, such as while riding in a vehicle or during walking, may result in fatigue or discomfort.

■ **If you experience fatigue or discomfort while recording or viewing 3D images on the LCD monitor, set the display to 2D.**
● Continual viewing of the 3D images may result in health problems.

■ **Rest well after viewing 3D images.**
● After viewing 3D images, check that you do not experience fatigue or discomfort before driving, etc.

■ **Take a break every 30 to 60 minutes when viewing 3D images.**
● Long periods of viewing may cause visual fatigue.

■ **Keep a distance of at least 3 times the effective height of the screen when viewing 3D images on a 3D compatible TV.**
● Viewing of 3D images from a distance shorter than the recommended distance may cause visual fatigue.
Recommended   : 42" TV: approx. 1.6 m (5'3"),
distance   46" TV: approx. 1.7 m (5'6-7/8"),
                             50" TV: approx. 1.9 m (6'2-3/4"),
                             54" TV: approx. 2.0 m (6'6-3/4")

■ **Viewing of 3D images is only recommended for ages 5 to 6 and above.**
● Guardians should pay close attention to children as health problems may result if fatigue and discomfort are not noticed immediately.

Contents

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Verifying the Accessories

AC Adapter AP-V30U*1 (for GZ-HM960)	AC Adapter AC-V11U*1 (for GZ-HM860)	Battery Pack BN-VG114U	Remote Control RM-V760U	USB Cable (Type A - Mini Type B)

| AV Cable	HDMI Mini Cable	Core Filter (Large) x 2 *2	Core Filter (Small) (for AC Adapter)	Basic User Guide (this manual)

● Optional Accessory: Component Cable (QAM1266-001)
● SD cards are sold separately. For details on the types of cards that can be used on this unit, refer to p. 12.
*1 When using the AC adapter overseas, please prepare a commercially available converter plug for the country or region of visit.
*2 for AV Cable and optional Component Cable
For more information, refer to the Detailed User Guide
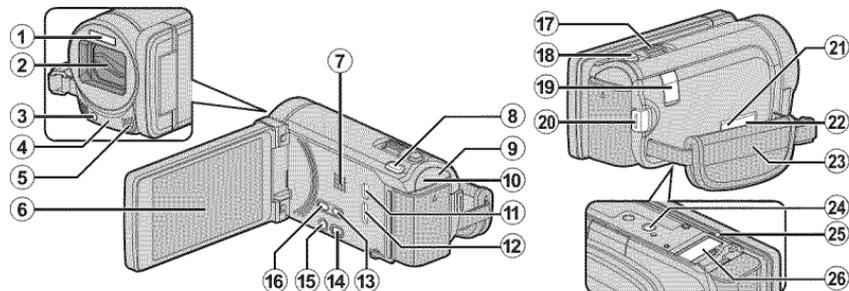http://manual.jvc.co.jp/index.html/

■ Attaching the Core Filter

Attach the core filter to the power cord of the AC adapter, AV Cable and optional Component Cable as shown in the illustration.
The core filter reduces interference when this unit is connected to other devices.

Release the stopper.   3 cm (1-3/16")   Wind once


To be connected to this unit
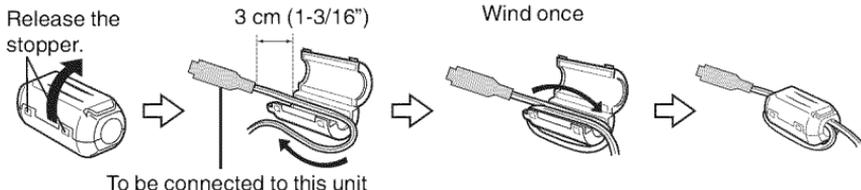
Names of Parts and Functions

① Flash
② Lens/Lens Cover
③ Light
④ Remote Sensor
⑤ Stereo Microphone
⑥ 3D LCD Monitor
Turns the power on/off by opening and closing.
⑦ Speaker
⑧ 3D Button (p. 19)(for GZ-HM960) / AF Button (for GZ-HM860)
⑨ POWER/CHARGE (Power/Charge) Lamp (p. 10)
⑩ ACCESS (Access) Lamp
Lights up/blinks during recording or playback.
⑪ USB Connector (p. 31)
⑫ HDMI Mini Connector (p. 20)
⑬ USER (User) Button
Activates preset functions.
⑭ 📹/📷 (Video/Still Image) Button
Switches between video and still image modes.

⑮ ⏻ (Power/Information) Button
Recording : Displays the remaining time (for video only) and battery power.
Playback : Displays file information such as recording date.
Press and hold to turn the power on/off while the LCD monitor is opened.
⑯ i.AUTO (Intelligent Auto) Button (p. 15)
⑰ Zoom/Volume Lever (p. 15, 18)
⑱ SNAPSHOT (Still Image Recording) Button (p. 17)
⑲ DC Connector (p. 10)
⑳ START/STOP (Video Recording) Button (p. 15)
㉑ COMPONENT (Component) Connector (p. 20)
㉒ AV Connector (p. 21, 26)
㉓ Grip Belt (p. 11)
㉔ Tripod Mounting Hole
㉕ Battery Release Lever (p. 10)
㉖ SD Card Slot (p. 11)

# Names of Buttons and Functions on the LCD Monitor

The following screens are displayed during the video and still image modes, and operate as the touch screens. (p. 9)

## Recording Screen (Video/Still Image)
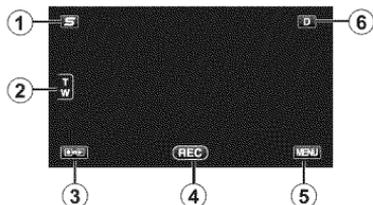
① Face Short Cut Menu Button
Displays a short cut screen of face recognition functions.
② Zoom Button
③ Recording/Playback Mode Button
Switches between recording and playback modes.
④ Recording Start/Stop Button (p. 15, 17)
⊞ : Video Recording Start Button
●‖ : Video Recording Stop Button
○ : Still Image Recording Button
⑤ Menu Button (p. 32)
⑥ Display Button
Some displays disappear after approximately 3 seconds. Press this button to show the displays again. The displays appear for approximately 3 seconds with every press. Press and hold this button to fix the displays. Press this button again to release the displays.

Playback Screen (Video)
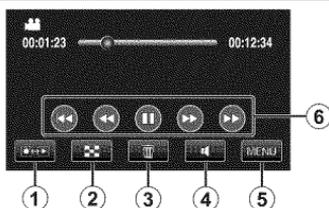
① Recording/Playback Mode Button
Switches between recording and playback modes.
② Index Screen Button (p. 18)
③ Delete Button
④ Volume Adjustment Button (p. 19)
⑤ Menu Button (p. 32)
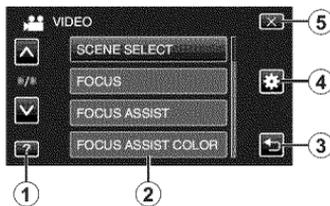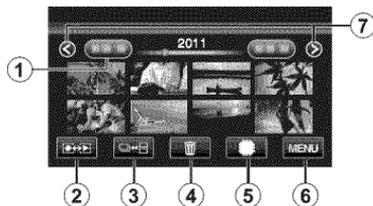⑥ Operation Buttons (p. 19)

Playback Screen (Still Image)
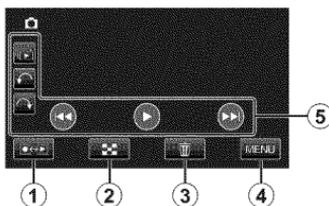
① Recording/Playback Mode Button
Switches between recording and playback modes.
② Index Screen Button (p. 18)
③ Delete Button
④ Menu Button (p. 32)
⑤ Operation Buttons (p. 19)

Index Screen


① Date Button
② Recording/Playback Mode Button
Switches between recording and playback modes.
③ Index Screen Switching Button (p. 18)
④ Delete Button (p. 18)
⑤ Playback Media Button
Switches between SD card and built-in memory.
⑥ Menu Button (p. 32)
⑦ Page Forward/Back Button

Menu Screen

① Help Button (p. 32)
② Menu Items (p. 32)
③ Return Button
④ COMMON Menu Button
⑤ Close Button

Using the Touch Screen

There are two ways to operate the touch screen, namely "tap" and "drag". The following are some examples.
A Tap the displayed button (icon) or thumbnail (file) on the touch screen to make selection.
B Drag the thumbnails on the touch screen to search for the desired file.

Recording Screen   Playback Screen   Index Screen
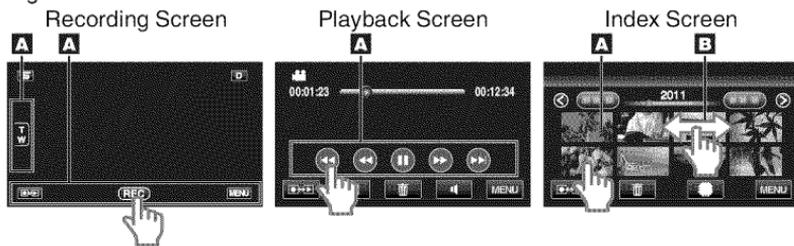
NOTE

• The touch screen of this unit is pressure-sensitive. When the touch screen does not respond smoothly, apply slightly more force to your fingertip.
• Do not press or rub with excessive force.
• If you apply a protect sheet or a sticker, the touch screen may not respond smoothly.
• Do not operate the touch screen using an object with a sharp or hard tip.
• Pressing two or more places at a time may cause a malfunction.
• Tap the buttons (icons) on the touch screen accurately. The buttons may not respond if they are not tapped on the right area.
• Perform "TOUCH SCREEN ADJUST" if the reactive area of the screen is misaligned with the touched area. (For details, refer to the Detailed User Guide.) (Adjust by lightly tapping with a corner of an SD card, etc. Do not press with an object with a sharp tip or do not press hard.)

Charging the Battery Pack
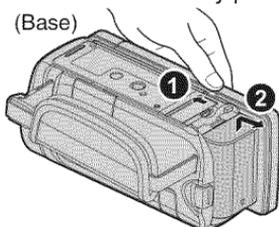
1 Attach the battery pack.

* The battery pack is not charged at the time of purchase.
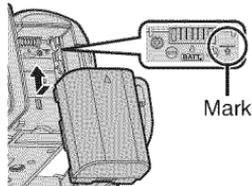
Mark

● Align the top of the battery with the mark on this unit, and slide in until the battery clicks into place.

■ To detach the battery pack
(Base)

2 Connect the DC connector.

Cover

AC Adapter
To AC Outlet

3 Plug in the power.

Charging Lamp
Charging in progress: Blinks
Charging finished: Goes out
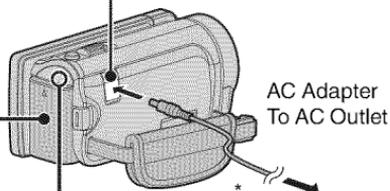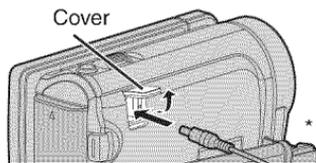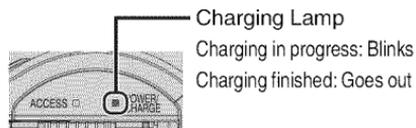
* The AC adapter shown in the illustration is AC-V11U (for GZ-HM860).

CAUTION

Be sure to use JVC battery packs.
● If you use any other battery packs besides JVC battery packs, safety and performance cannot be guaranteed.
● Charging time: Approx. 2 h 30 m (using supplied battery pack)
* The charging time is when the unit is used at 25°C (77°F). If the battery pack is charged outside the room temperature range of 10°C to 35°C (50°F to 95°F), charging may take a longer time or it may not start. The recordable and playable time may also be shortened under some usage conditions such as at low temperature.

Grip Adjustment

Pad
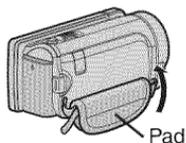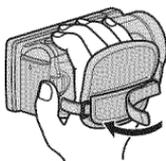
① Pull back the pad   ② Adjust the length of the belt   ③ Attach the pad
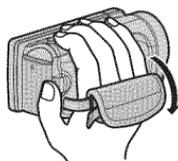
Inserting an SD Card

To record to the card, it is necessary to perform media settings. (p. 13)
When no card is available, set media settings to "BUILT-IN MEMORY" for recording.
By default, it is set to "BUILT-IN MEMORY".

1 Close the LCD monitor.

(Base)
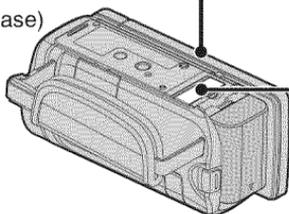
2 Open the cover and insert an SD card.

Terminal Side
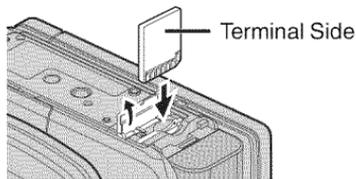
* Turn off the power of this unit before inserting or removing a card.

■ To remove the card

Push the card inward once, then pull it out straight.

(Base)

Getting Started

Recording

Playback

Copying

Further Information
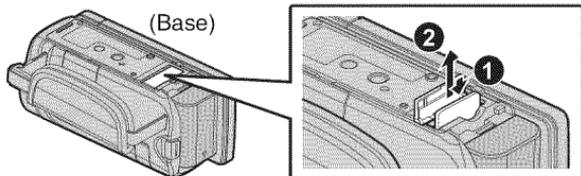
NOTE

Operations are confirmed on the following SD cards.

Manufacturer	Panasonic, TOSHIBA, SanDisk, Eye-Fi
Video 📹	Class 4 or higher compatible SD card (2 GB) / Class 4 or higher compatible SDHC card (4 GB to 32 GB) / Class 4 or higher compatible SDXC card (48 GB to 64 GB) (When recording with image quality "UXP", Class 6 or higher is recommended.)
Still Image 📷	SD card (256 MB to 2 GB)/SDHC card (4 GB to 32 GB)/ SDXC card (48 GB to 64 GB)
Eye-Fi	Eye-Fi Connect X2, Eye-Fi Explore X2, Eye-Fi Pro X2 (📹, 📷)

- Using SD cards (including SDHC/SDXC cards) other than those specified above may result in recording failure or data loss.
- To protect the data, do not touch the terminals of the SD card.
- Eye-Fi is an SD memory card with wireless LAN function. For more information, refer to Detailed User Guide.
- When using an SDXC card, check its compatibility with the OS of your computer by referring to the Detailed User Guide.
- Both videos and still images can be recorded on one SD card. It is recommended to confirm the video operation of the SD card before usage.
- When "SEAMLESS RECORDING" in the menu is set to "ON", recordings can still be made to the SD card without stopping when the remaining recording time on the built-in memory runs out.
  (For details on "SEAMLESS RECORDING", refer to the Detailed User Guide.)

■ To use an SD card

Recording can be performed on a card when "REC MEDIA FOR VIDEO" or "REC MEDIA FOR IMAGE" of "COMMON" menu is set to "SD CARD".

① Open the LCD monitor.

● The unit turns on.

② Tap "MENU".

③ Tap "⚙".

④ Tap "REC MEDIA FOR VIDEO" or "REC MEDIA FOR IMAGE".

⑤ Tap "SD CARD".

⑥ Tap "✕" (quit).

● Exits the screen.

■ To use SD cards that have been used on other devices

Format (initialize) the card using "FORMAT SD CARD" from "COMMON" menu.

All data on the card will be deleted when it is formatted. Copy all files on the card to a computer before formatting.

① Perform steps ① - ③ from "To use an SD card".

② Tap "FORMAT SD CARD".

③ Tap "FILE".
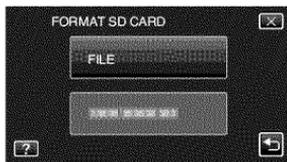
④ Tap "YES".

⑤ After formatting, tap "OK".

Clock Setting

1 Open the LCD monitor.
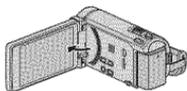
- The unit turns on. When the LCD monitor is closed, the unit turns off.

2 Tap "YES" when "SET DATE/TIME!" is displayed.

3 Set the date and time.

- When the year, month, day, hour, or minute item is tapped, "∧" and "∨" will be displayed. Tap "∧" or "∨" to adjust the value.
- Repeat this step to input the year, month, day, hour, and minute.

4 After setting the date and time, tap "SET".

5 Select the region where you live and tap "SAVE".

- The city name and time difference are displayed.
- Tap "<" or ">" to select the city name.

To reset the clock
Set the clock with "CLOCK ADJUST" from the "COMMON" menu.
① Open the LCD monitor.
- The unit turns on.
② Tap "MENU".
③ Tap "✿".
④ Tap "CLOCK ADJUST".

⑤ Tap "CLOCK SETTING".

- The subsequent setting operations are the same as steps 3 - 5 on p. 14.

To change the display language
The language on the display can be changed.
① Perform steps ① - ③ from "To reset the clock".
② Tap "LANGUAGE".

③ Tap to the desired language.

NOTE
- "SET DATE/TIME!" is displayed when you turn on this unit after it has not been used for a prolonged period. Connect the AC adapter for more than 24 hours before setting the clock. (p. 10)

For more information, refer to the Detailed User Guide
http://manual.jvc.co.jp/index.html/

Video Recording

You can record without worrying about the setting details by using the Intelligent Auto mode. Settings such as exposure and focus will be adjusted automatically to suit the shooting conditions.

● In case of specific shooting scenes such as person etc., its icon is displayed on the screen.

Before recording an important scene, it is recommended to conduct a trial recording.

1 Select video mode. 🎬/📷

2 Check if the recording mode is 🅰 Intelligent Auto.

● If the mode is 🅼 Manual, press the **A.AUTO** button to switch.
● The mode changes between Intelligent Auto and Manual with every press.
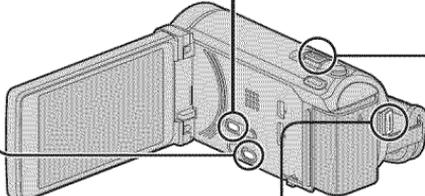
3 Start recording.
START /STOP

● Press again to stop.
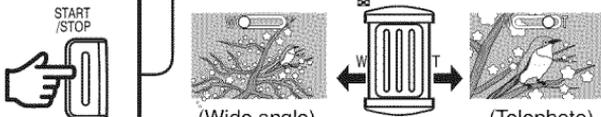
Zooming
🔲−VOL.+

(Wide angle)　(Telephoto)

● You can also tap 🔴 on the touch screen to record. To stop recording, tap ●‖. In addition, you can also tap T/W to zoom.

■ Indications during video recording

Video Quality

Image Stabilizer

Scene Counter

Recording Media

Battery Indicator

Remaining Recording Time

Getting Started

Recording

Playback

Copying

Further Information
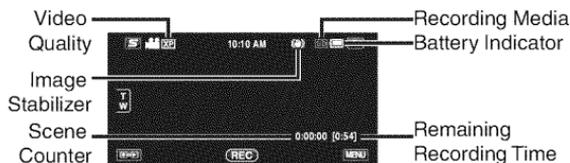
NOTE

● The estimated recording time of the supplied battery pack is approximately 40 minutes. (p. 33)
● Do not remove the battery pack, AC adapter, or SD card when the access lamp is lighted. The recorded data may become unreadable.
● 3D images are supported by the LCD monitor of this unit. To switch to 3D mode, refer to "Playing Back 3D Images". (p. 19) (for GZ-HM960)
● When recording in 3D mode, the image will be recorded in 2D even if the display on the LCD monitor is set to 3D. (for GZ-HM960)

■ Face registration

By registering the face of a person beforehand, focus and brightness can be adjusted automatically by the face tracking function. Up to 6 faces, together with names and priority levels, can be registered. It is recommended to register the faces that are often being recorded by this camera beforehand.
For details, refer to "Registering Human Face Personal Authentication Information" in the Detailed User Guide.

■ TOUCH PRIORITY AE/AF (FACE TRACKING/COLOR TRACKING/AREA SELECT)

"TOUCH PRIORITY AE/AF" is a function that adjusts focus and brightness based on a tapped position. By default, "TOUCH PRIORITY AE/AF" in the recording menu is set to "FACE TRACKING". When the face within a frame on the screen is tapped, appropriate focus and brightness will be adjusted for the tapped face (person).
In addition, the setting screen can be displayed by pressing the AF button. (for GZ-HM860)
For details, refer to "Capturing Subjects Clearly (TOUCH PRIORITY AE/AF)" in the Detailed User Guide.

Still Image Recording

1 Select still image mode.

2 Set the focus on the subject.

SNAPSHOT **Press halfway**

Lights up in green when focused

3 Take a still image.

SNAPSHOT **Press fully**

Lights up during still image recording

● You can also tap ☼ on the touch screen to record. However, focus cannot be set by pressing halfway.

■ Indications during still image recording

Image Size

Shutter Speed

Recording Media

Battery Indicator

Remaining Number of Shots

▲ : Focus

PHOTO : Recording in Progress

Playing Back/Deleting Files on this Unit

Select and play back the recorded videos or still images from an index screen (thumbnail display).

1 Select video or still image mode.

Volume adjustment during playback

Turn down the volume → Turn up the volume
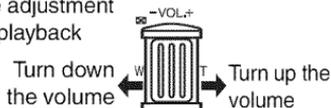
2 Tap ⬛↔▶ on the touch screen to select the playback mode.

* Tap ⬛↔▶ again to return to the recording mode.
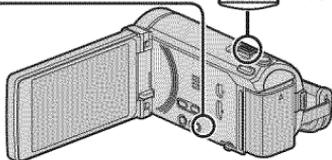
3 Tap on the file to play back.

- Tap 🎥/⬛ to select the media for playback.
- Tap ❚❚ to pause playback.
- Tap 🔲 to return to the video index screen.

■ **To delete unwanted files**

① Tap 🗑.

② Tap on the files to delete.
- A delete mark appears on the selected file. To remove the delete mark, tap again.

③ Tap "SET".

④ Tap "EXECUTE" when the confirmation message appears.

⑤ Tap "OK".

- The ⬛↔⬛ button on the index screen is only displayed during still image playback. Still images that are recorded continuously within 2 seconds or with the continuous shooting mode will be grouped together and displayed with a green frame on a separate index screen.
The index screen changes between the normal index screen and group index screen with every tap of the ⬛↔⬛ button.

■ Playing back 3D images (for GZ-HM960)

The mode changes between 3D and 2D with every press of the 3D button.
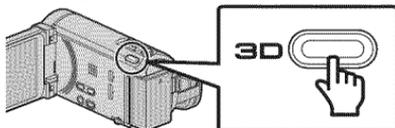
- To play back 3D images, refer also to "Precautions on Playing Back 3D Images".(p. 4)
- Some subjects may appear unnatural when played back in 3D mode. In this case, it is recommended to play back the video in 2D mode.
- 3D images are supported by the LCD monitor of this unit. You can play back 3D images on the LCD monitor. If you are using a 3D compatible TV, you can also play back 3D images by connecting with an HDMI cable. (p. 20)

■ To capture a still image during playback

Pause the playback and press the SNAPSHOT button.

■ Usable operation buttons during playback (*)

	During video playback	During still image playback
▶/ ▐▐	Playback/pause	Start/pause slideshow
■	Stop (returns to index screen)	Stop (returns to index screen)
▶▶▌	Advances to the next video	Advances to the next still image
▌◀◀	Returns to the beginning of the scene	Returns to the previous still image
▶▶	Forward search	-
◀◀	Reverse search	-
▌▶	Forward slow-motion / Press and hold to start slow playback	-
◀▌	Reverse slow-motion / Press and hold to start reverse slow playback	-
▮◀	Volume adjustment	-
↶	-	Rotates 90 degrees counterclockwise
↷	-	Rotates 90 degrees clockwise
⊡▷	-	Continuous playback of images taken by continuous shooting

* The buttons disappear after approximately 3 seconds. Tap on the screen to display the buttons again.

■ Parallax adjustment (video/still image) (for GZ-HM960)

The 3D effect of 3D images may appear either strong or weak. In these cases, you can correct the 3D effect by adjusting the parallax (3D LEVEL ADJUST).

① Tap "MENU".

② Tap "✿".

③ Tap "3D LEVEL ADJUST".

- Tap "∧" or "∨" to scroll the screen.

④ Tap the preferred level ("-2" to "+2").

3D display warnings (for GZ-HM960)

Fatigue or discomfort may be experienced if you view 3D images for a long period of time.
When viewing 3D images on this unit, a message will be displayed every 30 minutes.
To turn off the message display, set "3D DISPLAY WARNING" to "OFF". To change the setting, refer to the Detailed User Guide (Menu Settings - COMMON Menu).

Playing Back on TV

1 Connect to a TV.

* Refer also to the instruction manual of the TV in use.

● Turn off the camcorder by pressing the ⏻ button for about 2 seconds.

Playing back 3D images on a 3D compatible TV (for GZ-HM960)

If you are using a 3D compatible TV, you can play back 3D images by connecting to the HDMI mini connector.

Playing back in HD quality

If you are using an HDTV, you can play back in HD quality by connecting to the HDMI mini connector.

Connecting to the HDMI connector

TV

HDMI Mini Cable
(Provided)

To HDMI Mini Connector

HDMI Connector Input
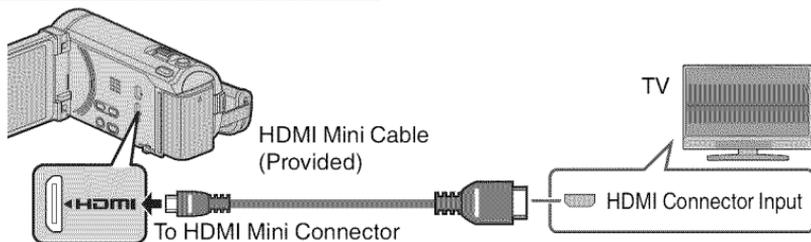
Connecting to the COMPONENT connector

To COMPONENT Connector

Green
Blue
Red

Component
Cable (Optional)

White
Red

Yellow

AV Cable
(Provided)

To AV Connector

Component
Video Input
 Y
 CB/PB
 CR/PR

Audio Input
(L)
Audio Input
(R)

TV

* Do not connect the yellow plug when using component cable.
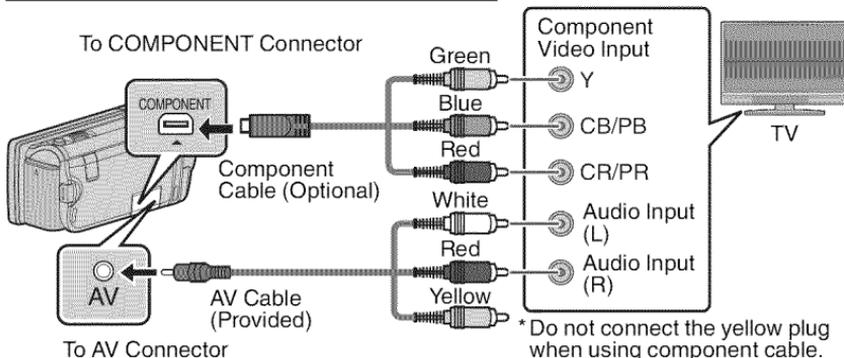
NOTE
● For questions about the TV or method of connection, contact your TV's manufacturer.
● Use a High Speed HDMI mini cable as the HDMI mini cable when not using the provided one.
● When playing back in HD quality, set "COMPONENT OUTPUT" in the "COMMON" menu to "1080i". The video is output in standard quality if the setting remains at "480i".
● When 3D images are played back on a 3D compatible TV, the display on the LCD monitor is in 2D. (for GZ-HM960)
● When this unit is connected to a 3D compatible TV via an HDMI cable and set to the recording mode while in 3D mode, 3D images will appear on the TV. (for GZ-HM960)
● If you experience fatigue or discomfort while viewing 3D images, it is recommended to play back in 2D mode. (for GZ-HM960)

■ **Playing back in standard quality**

If you are using a conventional TV, you can play back in standard quality by connecting to the AV connector.

Connecting to the AV connector

AV Cable (Provided)
To AV Connector
Yellow
White
Red

TV
Video Input
Video Input
Audio Input (L)
Audio Input (R)

2 Connect the AC adapter. (p. 10)
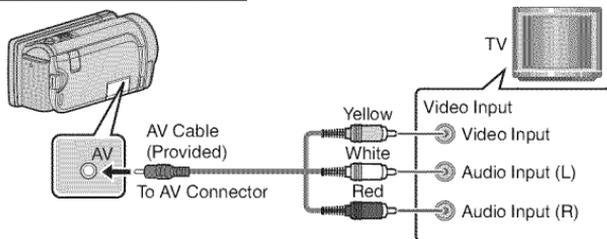
● This unit powers on automatically when the AC adapter is connected.

3 Select the TV input switch.

4 Play back a file. (p. 18)

■ **When images look unnatural on the TV**

Images do not appear on the TV properly.	● Disconnect the cable and connect again. ● Turn off and on this unit again.
Images are projected vertically on the TV.	● Set "VIDEO OUTPUT" in the "COMMON" menu to "4:3".
Images are projected horizontally on the TV.	● Adjust the TV's screen accordingly.
The color of images looks strange.	● If the video was recorded with "x.v.Color" set to "ON", set the "x.v.Color" setting of the TV to "ON". ● Adjust the TV's screen accordingly.
3D images are not displayed in 3D. (for GZ-HM960)	● Set "HDMI OUTPUT" in the "COMMON" menu to "CERTAIN TV TYPES". ● Set to 3D mode on the TV.

For more information, refer to the Detailed User Guide
http://manual.jvc.co.jp/index.html/ **21**

Copying Files

You can create discs or copy the files on this unit by connecting it to various devices.

✓ : Recordable and playable
△ : Playable only
— : Not applicable

Media Selection	Standard Quality		HD Quality			Page
	(VHS Tape)	(DVD Disc)	AVCHD DVD (DVD Disc)	Blu-ray Disc (Blu-ray Disc)	HDD (Device's internal HDD)	
DVD Writer	—	✓	✓	—	—	p. 23
External Blu-ray Drive	—	✓	✓	✓	—	p. 23
Blu-ray Recorder	—	✓	△ *1	✓ *1	✓	See manual of recorder.
DVD Recorder	—	✓	△ *1	—	✓	p. 26
VCR	✓	—	—	—	—	p. 26
External Hard Disk	—	—	—	—	✓	p. 27
Computer	—	*2	*2	*2	✓	p. 28

*1 Only on AVCHD compatible devices.
*2 For details, refer to the Detailed User Guide or the help file of Everio MediaBrowser 3 BE.

NOTE

● Discs created with a DVD writer or external Blu-ray drive as well as files copied to an external hard disk drive can be converted to 3D for playback. (for GZ-HM960)
● "AVCHD DVD" enables you to copy (record) videos to a DVD in the high definition quality.
Note that they cannot be played back on devices that do not support AVCHD.

Creating Discs with a DVD Writer or External Blu-ray Drive

While a DVD writer is used in the following explanation, the same operations apply for an external Blu-ray drive.

1 Connect the USB cable and the AC adapter.

- Turn off the camcorder by pressing the ⏻ button for about 2 seconds.
  ① Connect the USB cable provided with the DVD writer.
  ② Connect the AC adapter of the DVD writer.
  ③ Connect the AC adapter to this unit.
- This unit powers on automatically when the AC adapter is connected.

To DC Connector

To USB Connector

AC Adapter To AC Outlet

DVD Writer(CU-VD3U)
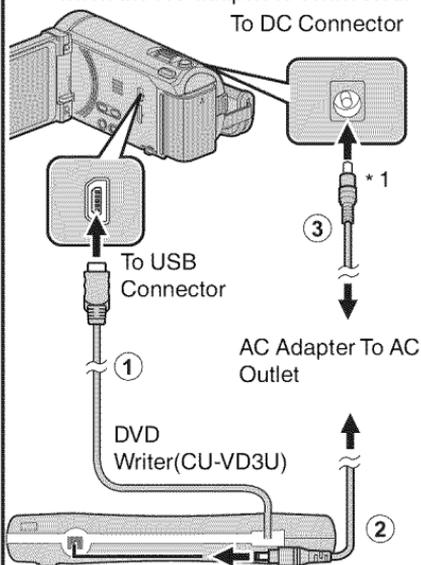
- Refer also to the instruction manual of the DVD writer or external Blu-ray drive.
- This unit turns on and the "BACK-UP" menu appears.
- While the USB cable is connected, the "BACK-UP" menu is displayed.

2 Turn on the DVD writer or external Blu-ray drive and insert a new disc.

■ **To play back the created disc**

Play back on an AVCHD compatible device (such as Blu-ray recorder).

■ **Compatible DVD writers**

- CU-VD50U
- CU-VD3U

■ **Compatible external Blu-ray drive**

- You can use BE08LU20 from LG.
- To use the USB cable provided with the external Blu-ray drive, purchase the USB extension cable.

*1 The AC adapter shown in the illustration is AC-V11U (for GZ-HM860).

*2 Mini-A (Male) – A (Female) (Part number: QAM0852-001)

*2: Consult your nearest JVC service center.

NOTE

- The recordable time on the disc varies according to the way of recording.
- When connected to this unit, all buttons on the DVD writer (CU-VD50U), other than the power and eject buttons, will not work.
- It is recommended to format your DVD-RW on a computer before using.

Copying All Files

Select video or still image mode.

1 Tap "CREATE FROM ALL" (video) or "SAVE ALL" (still image).

VIDEO BACKUP
CREATE FROM ALL

You can change the media to save to by selecting "CHANGE REC. MEDIA". (For details, refer to the Detailed User Guide.)

● Selecting "Blu-ray DISC" enables you to save videos in a Blu-ray disc in the high definition quality. (External Blu-ray drives only)
● Selecting "DVD(AVCHD)" enables you to save videos in a DVD in the high definition quality.
● Selecting "DVD-Video" enables you to save videos in a DVD after converting to the standard image quality.

2 Tap on the media to copy.

CREATE FROM ALL
SELECT THE MEDIA TO BACK UP
BUILT-IN MEMORY   **SD CARD**

3 Tap the desired method.

CREATE FROM ALL
ALL SCENES

**"ALL SCENES" (video)/
"ALL IMAGES" (still image):**
All videos or still images in this unit are copied.
**"UNSAVED SCENES" (video)/
"UNSAVED IMAGES" (still image):**
Videos or still images that have never been copied are automatically selected and copied.

4 Tap "EXECUTE".

ALL SCENES
REQUIRED DISC SPACE
DVD:2 / DVD(DL):1
PREPARE AN EMPTY DISC
EXECUTE   **RETURN**
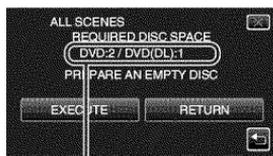
Number of discs required

5 Tap "YES" or "NO".

ALL SCENES
DO YOU WANT AN AUTOMATIC HEADLINE ON THE TOP MENU CREATED?
YES   **NO**
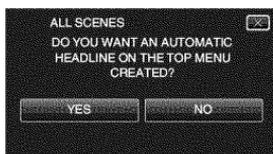
"YES" : Displays the videos with similar recording dates by groups.
"NO" : Displays the videos by recording dates.

6 Tap "EXECUTE".
● When "INSERT NEXT DISC" appears, change the disc.

7 After copying, tap "OK".

8 Press and hold the ⏻ button for 2 seconds or more to turn off this unit and disconnect the USB cable.

■ When "DO YOU WANT TO FINALIZE?" appears

This appears when "AUTO FINALIZE" in the "COMMON" menu is set to "OFF".

● To play back on other devices, tap "YES".
● To add more files to the DVD later, tap "NO".

Selecting Files to Copy

Select video or still image mode.

1 Tap "SELECT AND CREATE" (video) or "SELECT AND SAVE" (still image).

```
VIDEO BACKUP
[        ]
[ SELECT AND CREATE ]
[✓][        ]
[?][        ]
```

● You can change the media to save to by selecting "CHANGE REC. MEDIA". (For details, refer to p. 24 or the Detailed User Guide.)

2 Tap on the media to copy.

```
SELECT AND CREATE
SELECT THE MEDIA TO BACK UP
[ BUILT-IN MEMORY ][ SD CARD ]
[?]                        [↩]
```

3 Tap the desired method.

```
SELECT AND CREATE
[ CREATE BY DATE ]
[ SELECT FROM SCENES ]
[?]                    [↩]
```

"CREATE BY DATE" (video)/
"SAVE BY DATE" (still image):
Videos or still images are sorted and copied according to the date on which they were recorded. ➡ To **A**
"SELECT FROM SCENES" (video)/
"SELECT FROM IMAGES" (still image):
Select and copy the desired videos or still images individually. ➡ To **B**

A CREATE BY DATE/SAVE BY DATE

① Tap to select a recording date.

```
CREATE BY DATE
[ 2011.10.10 ]
[            ]
[            ]
[↩]              [ QUIT ]
```

● Only files of the selected date will be copied.
● The subsequent operations are the same as steps 4 - 8 on the previous page.

B SELECT FROM SCENES/ SELECT FROM IMAGES

① Select a file.

```
SELECT FROM SCENES
[<]      2011      [>]
[ ][✓][ ][ ]
[ ][ ][ ][ ]
      [ CHECK ][ QUIT ][ SAVE ]
```

● A check mark appears on the selected file.
② After selecting all the files, tap "SAVE".
● The subsequent operations are the same as steps 4 - 8 on the previous page.

■ To check the disc created

Select "PLAYBACK" in step 1.

> **CAUTION**
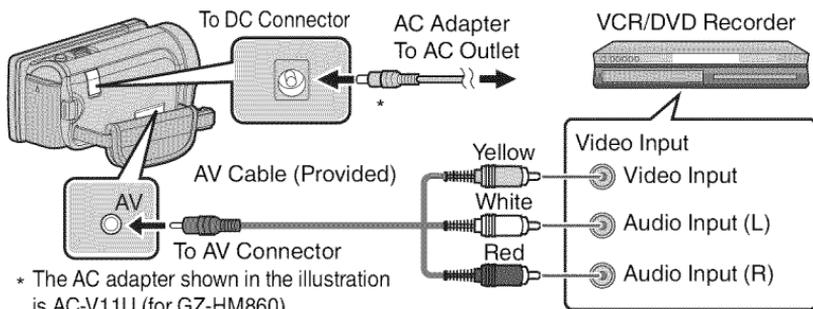> ● Do not turn off the power or remove the USB cable until copying is complete.
> ● If copying is canceled while it is in progress, the disc will become unusable.
> ● Videos and still images cannot be copied to the same disc.
> ● Files that are not on the index screen during playback cannot be copied. Special files cannot be copied either.

Getting Started

Recording

Playback

Copying

Further Information

Dubbing Files by Connecting to a DVD Recorder or VCR

You can dub videos in standard quality by connecting to a DVD recorder or VCR.
Refer also to the instruction manuals of the TV, DVD recorder, VCR, etc.

1 Connect to a VCR/DVD recorder.

● Turn off the camcorder by pressing the ⏻ button for about 2 seconds.

To DC Connector   AC Adapter   VCR/DVD Recorder
To AC Outlet

AV Cable (Provided)   Yellow   Video Input
   Video Input
   White   Audio Input (L)
To AV Connector   Red   Audio Input (R)
* The AC adapter shown in the illustration
is AC-V11U (for GZ-HM860).

● This unit powers on automatically when the AC adapter is connected.

2 Tap [●↔▶] to select the playback mode.

3 Prepare to record.

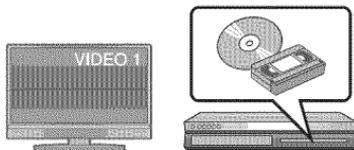### Preparation on TV and VCR/DVD recorder

● Switch to a compatible external input.
● Insert a DVD-R or video tape.

Preparation on this unit

● Set "VIDEO OUTPUT" in the "COMMON" menu to
the aspect ratio ("4:3" or "16:9") of the connecting TV.

4 Start recording.

● Start playback on this unit (p. 18) and press the record button on the recorder.
● After playback is complete, stop the recording.
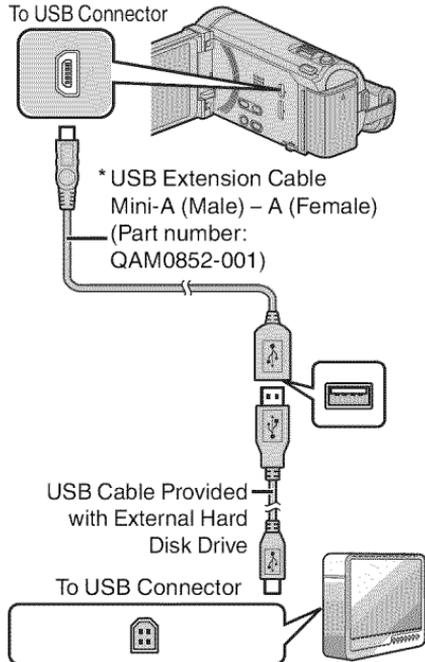
Using a USB External Hard Disk Drive

You can copy video and still image files to a USB external hard disk drive from this unit. You can also play the files in the USB external hard disk drive on this unit.

■ Compatible external hard disk drives

You can use the FreeAgent Desk series from Seagate or Design by Neil Poulton series from LaCie. USB external hard disk drives with the capacity over 2 TB cannot be used.

■ Compatible USB cables

To USB Connector

* USB Extension Cable
Mini-A (Male) – A (Female)
(Part number:
QAM0852-001)

USB Cable Provided
with External Hard
Disk Drive

To USB Connector

* Consult your nearest JVC service center.

Select video or still image mode.

1 Tap "BACK UP".

2 Tap on the media to copy.

3 Tap the desired method.

"ALL SCENES" (video)/
"ALL IMAGES" (still image):
All videos or still images in this unit are copied.
"UNSAVED SCENES" (video)/
"UNSAVED IMAGES" (still image):
Videos or still images that have never been copied are automatically selected and copied.

4 Start backup.

● Check that there is sufficient remaining space and tap "YES".

■ To play back the files copied

Select "PLAYBACK" in step 1.
Videos or still images saved in an external hard disk drive can be played back on this unit.
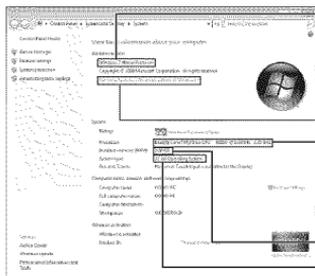
Copying to Computer

Verifying System Requirements (Guideline)

Windows PC

You can copy files to a PC using the provided software.
Right-click on "Computer" (or "My Computer") in the "Start" menu and select "Properties" to
check the following items.

■ Windows 7 / Windows Vista

● **Windows 7**
Home Premium (Pre-installed versions only)
Windows Vista
Home Basic or Home Premium (Pre-installed versions only)

● **Service Pack 2 (Windows Vista only)**
● **Processor**
Intel Core Duo, CPU 1.66 GHz or higher
(Intel Core 2 Duo, CPU 2.13 GHz or higher recommended)

● **Memory:** At least 2 GB
● **System type:** 32-bit / 64-bit

■ Windows XP
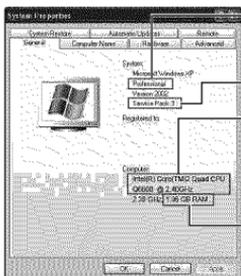
● **Windows XP**
Home Edition or Professional (Pre-installed versions only)

● **Service Pack 3**

● **Processor**
Intel Core Duo, CPU 1.66 GHz or higher
(Intel Core 2 Duo, CPU 2.13 GHz or higher recommended)

● Memory: At least 1 GB

■ Other requirements

Display: 1024×768 pixels or above (1280×1024 pixels or above recommended)
Graphic: Intel G965 or higher recommended

■ Video editing

Intel Core i7, CPU 2.53 GHz or higher recommended

For more information, refer to the Detailed User Guide
http://manual.jvc.co.jp/index.html/

NOTE

- If your PC does not meet the above system requirements, the provided software cannot be used. It is recommended to use a BD/DVD writer (optional).
- Still images cannot be recorded to discs using the provided software.
- For more information, contact your PC's manufacturer.

Mac Computer

You can import files from this unit to a computer using Apple's iMovie '08, '09, '11 (video) or iPhoto (still image).

To verify the system requirements, select "About This Mac" from the Apple menu. You can determine the operating system version, processor and amount of memory.

- For the latest information on iMovie or iPhoto, refer to the Apple website.
- For details on how to use iMovie or iPhoto, refer to the help file of the respective software.
- There is no guarantee that the operations will work with all computer environments.
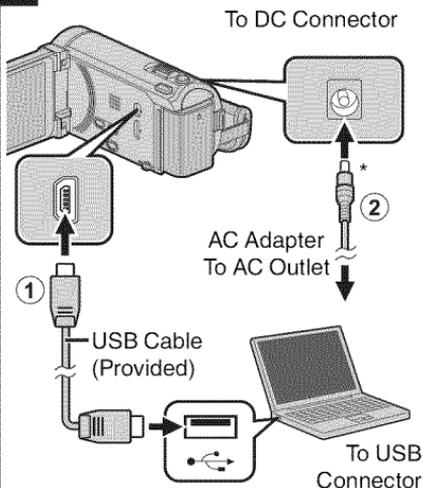
Installing the Provided Software (Built-in)

You can display the recorded images in calendar format and perform simple editing using the provided software.

1 Open the LCD monitor.

● Turn off the camcorder by pressing the ⏻ button for about 2 seconds.

2 Connect the USB cable and the AC adapter.

To DC Connector

AC Adapter
To AC Outlet

USB Cable
(Provided)

To USB Connector

* The AC adapter shown in the illustration is AC-V11U (for GZ-HM860).

● This unit turns on and the "BACK-UP" menu appears.

3 Tap "CONNECT TO PC".

4 Tap "PLAYBACK ON PC".

5 Perform the following steps on the computer.

① Click "Run INSTALL.EXE" in the auto play dialog box.

② Click "Continue" on the user account control screen.

● "Software Setup" appears after a while.

● If it doesn't appear, double-click "JVCCAM_APP" in "My Computer" (or "Computer"), then double-click the "install.exe".

6 Click "Everio MediaBrowser 3".

● Follow the on-screen instructions.

7 Click "Finish".

8 Click "Quit".

Everio MediaBro... Everio MediaBro...

● Installation ends and icons are created on the desktop.

> **NOTE**
> ● To view the Detailed User Guide, connect to the internet and click "Detailed User Guide" in step 6.
> ● For the operating details of Everio MediaBrowser 3 BE, refer to "Help" - "MediaBrowser Help" on the Everio MediaBrowser 3 BE toolbar. The instruction manual will appear.
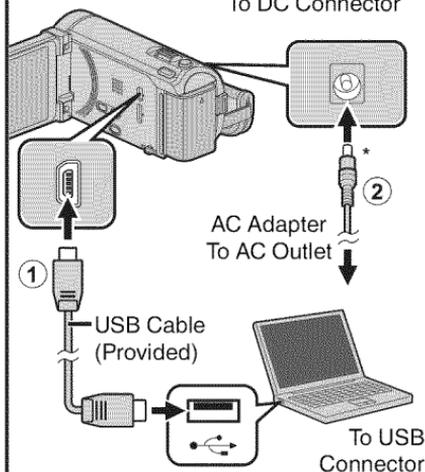
Backing Up All Files

Before making backup, make sure that there is enough free space in the PC's HDD.
Backup will not start if there is not enough free space.

1 Connect the USB cable and the AC adapter.

● Before connecting, turn off the camcorder by pressing the ⏻ button for about 2 seconds.
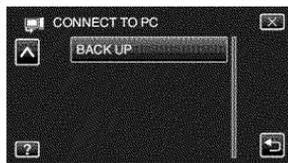
To DC Connector

AC Adapter
To AC Outlet

① ②

USB Cable
(Provided)

To USB
Connector

* The AC adapter shown in the illustration is AC-V11U (for GZ-HM860).

● This unit turns on and the "BACK-UP" menu appears.

2 Tap "CONNECT TO PC".

3 Tap "BACK UP".

● The provided software Everio MediaBrowser 3 BE starts up on the PC.

The subsequent operations are to be performed on the PC.

4 Select the volume.
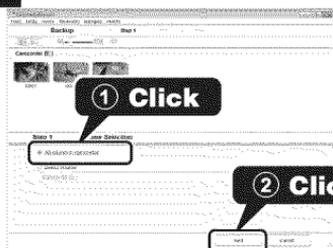
5 Start backup.

Saving destination (PC)

6 After backup is complete, click "OK".

If you encounter any problems with the provided software Everio MediaBrowser 3 BE, please consult the "Pixela User Support Center". (p. 32)

■ To disconnect this unit from the PC

① Click "Safely Remove Hardware".

② Click "Safely Remove USB Mass Storage Device".

③ (For Windows Vista) Click "OK".

④ Disconnect the USB cable and close the LCD monitor.

Operating the Menu

You can configure various settings using the menu.

1 Tap "MENU".

- The menu differs according to the mode in use.
- Tap "**S**" to display the face short cut menu.

2 Tap the desired menu.

VIDEO
SCENE SELECT
FOCUS
FOCUS ASSIST
FOCUS ASSIST COLOR

- Tap "🔅" to display the "COMMON" menu.
- Tap "∧" or "∨" to scroll the screen.

3 Tap the desired setting.

CLOCK ADJUST
CLOCK SETTING

■ To exit the screen

Tap "✕" (quit).

■ To return to the previous screen

Tap "↩" (return).

■ To display the help file

Tap "?" (help) and tap the menu item.

- Help file may not be available for some items.

- **For more information on the settings, refer to the Detailed User Guide.**

Customer Support Information

Use of this software is authorized according to the terms of the software license.

JVC (for inquires regarding this unit)

When contacting the nearest JVC office or agency in your country (refer to the JVC Worldwide Service Network at http://www.jvc-victor.co.jp/english/worldmap/index-e.html) about this software, please have the following information ready.

- Product Name, Model, Serial Number, Problem, Error Message
- Computer (Manufacturer, Model (Desktop/Laptop), CPU, OS, Memory (MB/GB), Available Hard Disk Space (GB))
  Please note that it may take some time to respond to your questions, depending on their subject matter.
  JVC cannot answer questions regarding basic operation of your computer, or questions regarding specifications or performance of the OS, other applications or drivers.

Pixela (for inquires regarding the provided software)

Region	Language	Phone #
USA and Canada	English	+1-800-458-4029 (toll-free)
Europe (UK, Germany, France, and Spain)	English/German/French/Spanish	+800-1532-4865 (toll-free)
Other Countries in Europe	English/German/French/Spanish	+44-1489-564-764
Asia (Philippines)	English	+63-2-438-0090
China	Chinese	10800-163-0014 (toll-free)

Homepage: http://www.pixela.co.jp/oem/jvc/mediabrowser/e/
Please check our website for latest information and downloading.

Recordable Time/Number of Images

You can check the video recording time by pressing the INFO button.

Approximate Video Recording Time

Quality	Built-in Memory 16 GB	SDHC/SDXC Card 4 GB	8 GB	16 GB	32 GB	48 GB	64 GB
UXP	1 h 20 m	20 m	40 m	1 h 20 m	2 h 50 m	4 h 20 m	5 h 50 m
XP	2 h	30 m	1 h	2 h	4 h 10 m	6 h 10 m	8 h 20 m
SP	2 h 50 m	40 m	1 h 20 m	2 h 50 m	5 h 50 m	8 h 40 m	11 h 50 m
EP	7 h	1 h 40 m	3 h 40 m	7 h 10 m	14 h 50 m	21 h 50 m	29 h 50 m

● The approximate recording time is only a guide. The actual recording time may shorten depending on the shooting environment.

Approximate Number of Still Images (Unit: Number of Shots)

Image Size	Built-in Memory 16 GB	SDHC Card 4 GB	8 GB	16 GB	32 GB
3,968×2,976 (4:3)	2,200	500	1,100	2,300	4,700
2,656×1,992 (4:3)	4,900	1,200	2,600	5,200	9,999
2,304×1,728 (4:3)	6,500	1,700	3,400	6,900	9,999
1,600×1,200 (4:3)	9,999	3,500	7,100	9,999	9,999
640×480 (4:3)	9,999	9,999	9,999	9,999	9,999
1,920×1,080 (16:9)	9,999	3,200	6,700	9,999	9,999

Approximate Recording Time (Using Battery)

■ 3D display on LCD monitor (GZ-HM960)

Battery Pack	Actual Recording Time	Continuous Recording Time
BN-VG114U	35 m	1 h
BN-VG121U	50 m	1 h 30 m
BN-VG138U	1 h 30 m	2 h 45 m

■ 2D display on LCD monitor

Battery Pack	GZ-HM960 Actual Recording Time	Continuous Recording Time	GZ-HM860 Actual Recording Time	Continuous Recording Time
BN-VG114U	40 m	1 h 10 m	40 m	1 h 15 m
BN-VG121U	1 h	1 h 45 m	1 h 5 m	1 h 55 m
BN-VG138U	1 h 40 m	3 h 5 m	1 h 55 m	3 h 25 m

● The above are values when "MONITOR BRIGHTNESS" is set to "STANDARD".
● The actual recording time may be shorter if zooming is used or if recording is stopped repeatedly. (It is recommended to prepare battery packs ready for three times the expected recording time.)
● When the battery life is reached, the recording time becomes shorter even if the battery pack is fully charged. (Replace the battery pack with a new one.)

Troubleshooting

If you encounter problems with this unit, check the following before requesting service.

1 Refer to "Trouble" below.

2 Refer to the "Troubleshooting" section in the "Detailed User Guide".

If you have difficulties operating the unit, refer to the detailed descriptions in the "Detailed User Guide".

● http://manual.jvc.co.jp/index.html/

3 Refer to the FAQ of new products on JVC's website.

● http://www.jvc.com/

4 This unit is a microcomputer-controlled device. Electrostatic discharge, external noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly.

In such a case, reset the unit.

① Turn off the power. (Close the LCD monitor.)

② Remove the AC adapter and battery pack from this unit, reattach them, open the LCD monitor and this unit powers on automatically.

5 If the above do not solve the problem, consult your nearest JVC dealer or JVC service center.

Trouble

	Trouble	Action	Page
Power	POWER/CHARGE lamp starts blinking when the monitor is closed.	● The battery pack is being charged.	10
Recording	Recording cannot be performed.	● Check the ▦ / ◙ button. ● Set to the recording mode by tapping the ▣⟷▶ button.	15 18
Recording	Recording stops automatically.	● Turn off this unit, wait for a while, and turn it on again. (This unit stops automatically to protect the circuit when the temperature rises.) ● Recording stops automatically after 12 hours of continuous recording.	- -
Playback	Sound or video is interrupted.	● Sometimes playback is interrupted at the connecting section between two scenes. This is not a malfunction.	-

For more information, refer to the Detailed User Guide
http://manual.jvc.co.jp/index.html/

3D images cannot be seen on a 3D compatible TV properly. (for GZ-HM960)	● Set "HDMI OUTPUT" in the "COMMON" menu accordingly.	-
The lamp does not flash during battery pack charging.	● Check the remaining battery power. (When the battery pack is fully charged, the lamp does not flash.)	15
	● When charging in either a hot or cold environment, ensure that battery is being charged within the permitted temperature range. (Otherwise, charging may stop to protect the battery pack.)	10
This unit heats up.	● This is not a malfunction. (This unit may become warm when used for a long time.)	-

Warning Indications

Warning Indications	Action	Page
RECORDING FAILURE	● Turn off and on this unit again.	-
	● If the above does not solve the problem, back up your files and execute "FORMAT BUILT-IN MEM." or "FORMAT SD CARD" in the "COMMON" menu. (All data will be deleted.)	-
ERROR IN BUILT-IN MEMORY!/MEMORY CARD ERROR!	● Turn off and on this unit again.	-
	● Remove the AC adapter and battery pack, then remove and re-insert the SD card.	-
	● Remove any dirt from the SD card terminals.	-
	● If the above does not solve the problem, back up your files and execute "FORMAT BUILT-IN MEM." or "FORMAT SD CARD" in the "COMMON" menu. (All data will be deleted.)	-
DATA RECORDED FILE IS TOO SMALL TO BE SAVED	● When time-lapse recording is stopped with the recorded time less than "0:00:00:17", the video will not be saved.	-

Cautions

AC Adapter

### When using the AC adapter in areas other than the USA

The provided AC adapter features automatic voltage selection in the AC range from 110 V to 240 V.

USING HOUSEHOLD AC PLUG ADAPTER

In case of connecting the unit's power cord to an AC wall outlet other than American National Standard C73 series type use an AC plug adapter, called a "Siemens Plug", as shown. For this AC plug adapter, consult your nearest JVC dealer. **Plug Adapter**
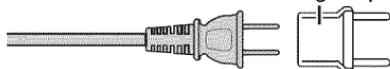
- Remove the AC adapter from the AC wall outlet when not in use.
- Do not leave dust or metal objects adhered to the AC wall outlet or AC adapter (power/DC plug).

Battery Pack

The supplied battery pack is a lithium-ion battery. Before using the supplied battery pack or an optional battery pack, be sure to read the following cautions: **Terminals**

- **To avoid hazards**
  ... **do not** burn.
  ... **do not** short-circuit the terminals. Keep it away from metallic objects when not in use. When transporting, carry the battery in a plastic bag.
  ... **do not** modify or disassemble.
  ... **do not** expose the battery to temperatures exceeding 60°C (140°F), as this may cause the battery to overheat, explode or catch fire.
  ... use only specified chargers.

- **To prevent damage and prolong service life**
  ... do not subject to unnecessary shock.
  ... charge within the temperature range of 10°C to 35°C (50°F to 95°F). Cooler temperatures require longer charging time, or in some cases stop charging at all.
  Warmer temperatures prevent complete charging, or in some cases stop charging at all.
  ... store in a cool, dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
  ... keep a 30% battery level (▯) if the battery pack is not to be used for a long period of time.In addition, fully charge and then fully discharge the battery pack every 6 months, then continue to store it at a 30% battery level (▯).
  ... remove from charger or powered unit when not in use, as some machines use current even when switched off.
  ... do not drop or subject to strong impact.

ATTENTION:

The product you have purchased is powered by a rechargeable battery that is recyclable. Please call 1-800-8-BATTERY for information on how to recycle this battery.
(USA and Canada only)

Recording Medium

- **Be sure to follow the guidelines below to prevent corruption or damage to your recorded data.**
  - Do not bend or drop the recording medium, or subject it to strong pressure, jolts or vibrations.
  - Do not splash the recording medium with water.
  - Do not use, replace, or store the recording medium in locations that are exposed to strong static electricity or electrical noise.
  - Do not turn off the camcorder power or remove the battery or AC adapter during shooting, playback, or when otherwise accessing the recording medium.
  - Do not bring the recording medium near objects that have a strong magnetic field or that emit strong electromagnetic waves.
  - Do not store the recording medium in locations with high temperature or high humidity.
  - Do not touch the metal parts.

- When formatting or erasing data using the camcorder, only the file administration information is changed. The data is not completely erased from the recording medium. If you want to completely erase all of the data, we recommend either using commercially available software that is specially designed for that purpose, or by physically destroying the camcorder with a hammer etc.

LCD Monitor

- **To prevent damage to the LCD monitor, DO NOT**
  ... push it strongly or apply any shocks.
  ... place the camcorder with LCD monitor on the bottom.

- **To prolong service life**
  ... avoid rubbing it with coarse cloth.

For more information, refer to the Detailed User Guide
http://manual.jvc.co.jp/index.html/

Main Unit

● **For safety, DO NOT**
... open the camcorder's chassis.
... disassemble or modify the unit.
... allow inflammables, water or metallic objects to enter the unit.
... remove the battery pack or disconnect the power supply while the power is on.
... leave the battery pack attached when the camcorder is not in use.
... place naked flame sources, such as lighted candles, on the apparatus.
... expose the apparatus to dripping or splashing.
... leave dust or metal objects adhered to the power plug or an AC wall outlet.
... insert any objects in the camcorder.

● **Avoid using the unit**
... in places subject to excessive humidity or dust.
... in places subject to soot or steam such as near a cooking stove.
... in places subject to excessive shock or vibration.
... near a television set.
... near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
... in places subject to extremely high (over 40°C or 104°F) or extremely low (under 0°C or 32°F) temperatures.

● **DO NOT leave the unit**
... in places of over 50°C (122°F).
... in places where humidity is extremely low (below 35%) or extremely high (above 80%).
... in direct sunlight.
... in a closed car in summer.
... near a heater.
... in high places such as on a TV. Leaving the unit in high places while a cable is connected may result in a malfunction if the cable is caught and the unit falls onto the floor.

● **To protect the unit, DO NOT**
... allow it to become wet.
... drop the unit or strike it against hard objects.
... subject it to shock or excessive vibration during transportation.
... keep the lens directed at extremely bright objects for long periods.
... expose the lens to direct sunlight.
... swing it excessively when using the hand strap.
... swing the soft camcorder case excessively when the camcorder is inside it.
... store the camcorder in a dusty or sandy area.

● **To prevent the unit from dropping,**
● Fasten the grip belt securely.
● When using the camcorder with a tripod, attach the camcorder to the tripod securely.
If the camcorder drops, you may be injured and the camcorder may be damaged.
When a child uses the unit, there must be parental guidance.

Declaration of Conformity

Model Number : GZ-HM960U/GZ-HM860U
Trade Name : JVC
Responsible party : JVC AMERICAS CORP.
Address : 1700 Valley Road Wayne, N. J. 07470
Telephone Number : 973-317-5000
This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not approved by JVC could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Specifications

Camera	
Power supply	Using AC adapter: DC 5.2 V, Using battery pack: DC 3.6 V
Power consumption	● GZ-HM960 4.1 W (LCD monitor 2D display) 4.6 W (LCD monitor 3D display) (when "MONITOR BRIGHTNESS" is set to "STANDARD") ● GZ-HM860 3.7W (when "MONITOR BRIGHTNESS" is set to "STANDARD")
Dimensions (W x H x D)	54 mm x 62 mm x 121 mm (2-1/4" x 2-1/2" x 4-7/8")(W x H x D: excluding grip belt)
Mass	● GZ-HM960 Approx. 330 g (0.73lbs) (camera only), Approx. 370 g (0.82lbs) (including supplied battery pack) ● GZ-HM860 Approx. 310 g (0.68lbs) (camera only), Approx. 350 g (0.77lbs) (including supplied battery pack)
Operating environment	Allowable operating temperature: 0°C to 40°C (32°F to 104°F) Allowable storage temperature: -20°C to 50°C (-4°F to 122°F) Allowable relative humidity: 35 % to 80 %
Image pickup device	1/2.3" 10,620,000 pixels (CMOS)
Recording area (Video)	2,820,000 pixels 2,070,000 to 4,770,000 pixels (dynamic zoom)
Recording area (Still image)	3,980,000 to 5,290,000 pixels (4:3) 2,990,000 to 3,970,000 pixels (16:9)
Lens (Video)	F1.2 - 2.8, f= 3.76 mm to 37.6 mm 35 mm conversion: 29.5 mm to 295 mm 35 mm conversion: 29.5 mm to 448 mm (dynamic zoom)
Lens (Still image)	F1.2 - 2.8, f= 3.76 mm to 37.6 mm 35 mm conversion: 29.7 mm to 297 mm (4:3) 35 mm conversion: 32.4 mm to 324 mm (16:9)
Zoom (Video)	Optical zoom: Up to 10x Dynamic zoom: Up to 15x (DIS: OFF), Up to 13x (DIS: ON (AIS)) Digital zoom: Up to 200x
Zoom (Still image)	Optical zoom: Up to 10x
Video recording format	AVCHD standard, Video: AVC/H.264, Audio: Dolby Digital (2ch)
Still image recording format	JPEG standard
Recording Media	Built-in memory (16 GB), SD/SDHC/SDXC card (commercially available), Eye-Fi card (commercially available)
Clock battery	Rechargeable battery

For more information, refer to the Detailed User Guide
http://manual.jvc.co.jp/index.html/

AC Adapter (AP-V30U) (For GZ-HM960)*

Power supply	AC 110 V to 240 V, 50 Hz/60 Hz
Output	DC 5.2 V, 1 A
Allowable operating temperature	0°C to 40°C (32°F to 104°F) (10°C to 35°C (50°F to 95°F) during charging)
Dimensions (mm)	78 x 34 x 46 (3-1/8" x 1-3/8" x 1-13/16") (W x H x D: excluding cord and AC plug)
Mass	Approx. 107 g (0.24 lbs)

AC Adapter (AC-V11U) (For GZ-HM860)*

Power supply	AC 110 V to 240 V, 50 Hz/60 Hz
Output	DC 5.2 V, 1 A
Allowable operating temperature	0°C to 40°C (32°F to 104°F) (10°C to 35°C (50°F to 95°F) during charging)
Dimensions (mm)	66 x 28 x 47 (2-5/8" x 1-1/8" x 1-7/8") (W x H x D: excluding cord and AC plug)
Mass	Approx. 71 g (0.15 lbs)

* When using the AC adapter overseas, please prepare a commercially available converter plug for the country or region of visit.

● The specifications and appearance of this product are subject to changes for further improvement without prior notice.

Bluetooth Capabilities

■ Headset

You can use a headset (headphone that is integrated with a microphone) to listen to the recorded audio sound during shooting.

■ GPS Receiver

You can use the GPS receiver to record the location information of a recorded movie or still image.

■ BIP/OPP

Transfers still image data to a Bluetooth-compliant device.

■ Smartphone

You can use a registered mobile phone as a remote control for this unit using the pre-installed application on the phone.

● For details on Bluetooth, refer to the Detailed User Guide.
http://manual.jvc.co.jp/index.html/

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